

21
conced

14. (NEW) A logic gate, as set forth in claim 11, including a capacitor coupled between the output terminal and the second terminal of the voltage supply.

15. (NEW) A logic gate, as set forth in claim 11, including at least one clamping diode coupled between the output terminal and the second terminal of the voltage supply.

16. (NEW) A logic gate, as set forth in claim 2, wherein said transistor is a p-type transistor.

Remarks

Original claims 1-9 remain pending in the application. New claims 10-16 have been added by this amendment. No new matter has been added. Applicant respectfully requests reconsideration of original claims 1-9 and consideration of newly added claims 10-16.

Original claims 1-9 were objected to because of a number of perceived informalities. The noted informalities are generally directed to Applicant's use of the article "the" to refer back to an earlier introduced noun, as opposed to use of the term "said," which is preferred by the Examiner. Applicant respectfully declines to adopt the Examiner's suggestion. Applicant respectfully suggests that use of the term "said" is not required, and that Applicant has consistently used the term "the" in a manner consistent with proper grammatical construction. Further, it is relatively common for the terms "the" and "said" to be used interchangeably within

the claims of United States patents. Accordingly, Applicant respectfully requests that the objection be withdrawn.

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Lee (U.S. Patent No. 6,078,194). Applicant respectfully traverses this rejection. Applicant's invention is generally directed to a logic gate that is capable of delivering an output signal that has a relatively low noise component. In particular, claim 1 includes a recitation to "said low noise current source being capable of delivering a preselected voltage signal to said output terminal having a magnitude responsive to a first control signal relatively independent of the magnitude of the voltage on said first terminal of said voltage supply." Emphasis added. That is, the output of the current source is relatively free from variations in the voltage level of the voltage supply. At least one factor that contributes to the independence of the output of the current source relative to the voltage supply is the use of a p-type transistor (66 or 84) when the voltage supply (62) is a positive voltage. For example, consider the circuit shown in Figure 2 of the instant application. Assume that the voltage supply (62) is normally at about 5 Volts, but because of noise of other interference, the voltage supply (62) dips to about 4.5 Volts. The circuitry providing a control signal to the p-type transistor (66) over the terminal (32) will likewise be reduced since it is also powered by the voltage supply (62). The reduced level of the signal applied to the gate of the p-type transistor (66) causes it to pass more current, thereby maintaining the voltage level of the signal delivered by the current source. In contradistinction thereto, Lee does not show or suggest a low noise current source that is capable of delivering a preselected voltage signal to its output terminal that has a magnitude responsive to a first control signal relatively independent of the magnitude of the voltage on the first terminal of the voltage supply. This lack of independence is

evidenced by the fact that the transistor (32) of Lee is an n-type transistor, whereas the voltage supply V_{cc} appears to be a positive voltage. Accordingly, Lee does not possess each and every limitation set forth in Applicant's claim 1 for at least the reasons discussed above. Applicant respectfully requests that the rejection of claim 1 be withdrawn.

Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and the Examiner's opinion that a diode configured transistor is equivalent to a resistor. Claim 2 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 2 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 2 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 2 be withdrawn.

Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Chang (U.S. Patent No. 5,955,893). Claim 3 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 3 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 3 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 3 be withdrawn.

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Thompson (U.S. Patent No. 3,651,334). Claim 4 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 4 adds nothing to overcome the

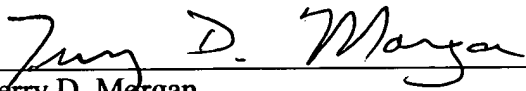
shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 4 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 4 be withdrawn.

Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Sundstrom (U.S. Patent No. 5,602,494). Claim 5 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 5 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 5 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 5 be withdrawn.

The Examiner characterized claims 6-9 as being essentially the same in scope as rejected apparatus claims 1-5, and thus rejected claims 6-9 "similarly." Applicant respectfully traverses the Examiner's rejection. Independent claim 6 includes an additional recitation to the current source having an intrinsic transistor. As discussed in Applicant's specification, the use of an intrinsic transistor has further significant benefits in enhancing the independence of the output signal of the logic gate from "noise" appearing on the voltage supply. Lee neither discloses nor suggests that an intrinsic transistor could be used in a current source of a logic gate, or that using such an intrinsic transistor may beneficially reduce noise produced by the logic gate. Accordingly, claim 6 and its dependent claims (7-9) are patentably distinct over Lee and the remaining applied references. Further, claims 6-9 are also patentably distinct over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 6-9 be withdrawn.

The Examiner is invited to contact the undersigned attorney at (713) 934-4050 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,


Terry D. Morgan
Reg. No. 31,181

WILLIAMS, MORGAN & AMERSON
7676 Hillmont, Suite 250
Houston, Texas 77040
(713) 934-7000

Attorney for Applicant

Date: January 26, 2001